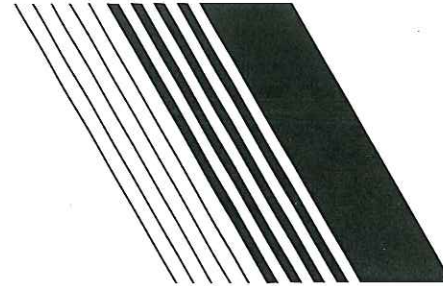
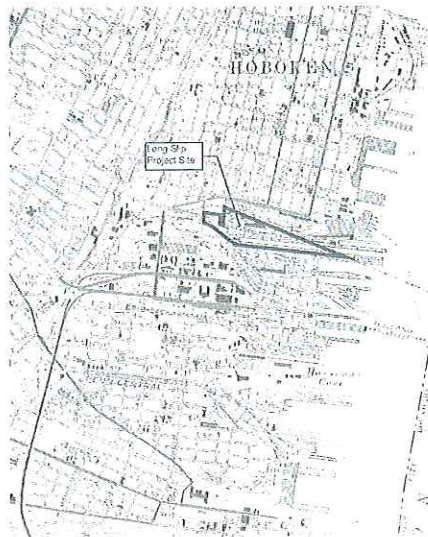


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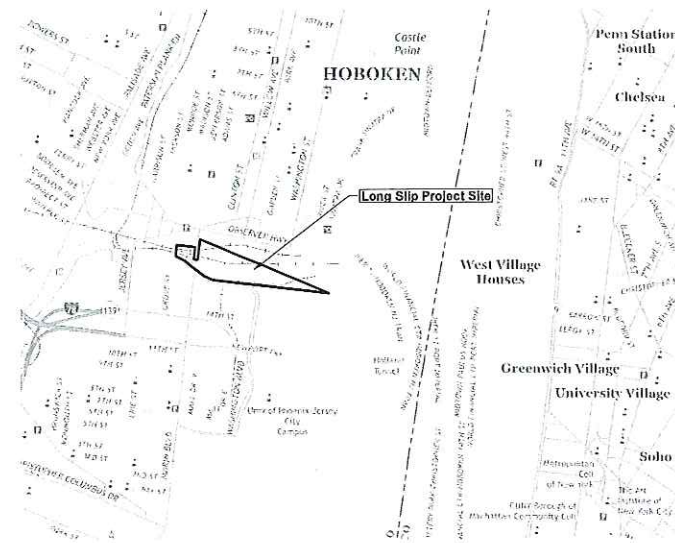


LONG SLIP CANAL FILL AND RAIL ENHANCEMENT PROJECT

USACE SECTION 10/404 INDIVIDUAL PERMIT

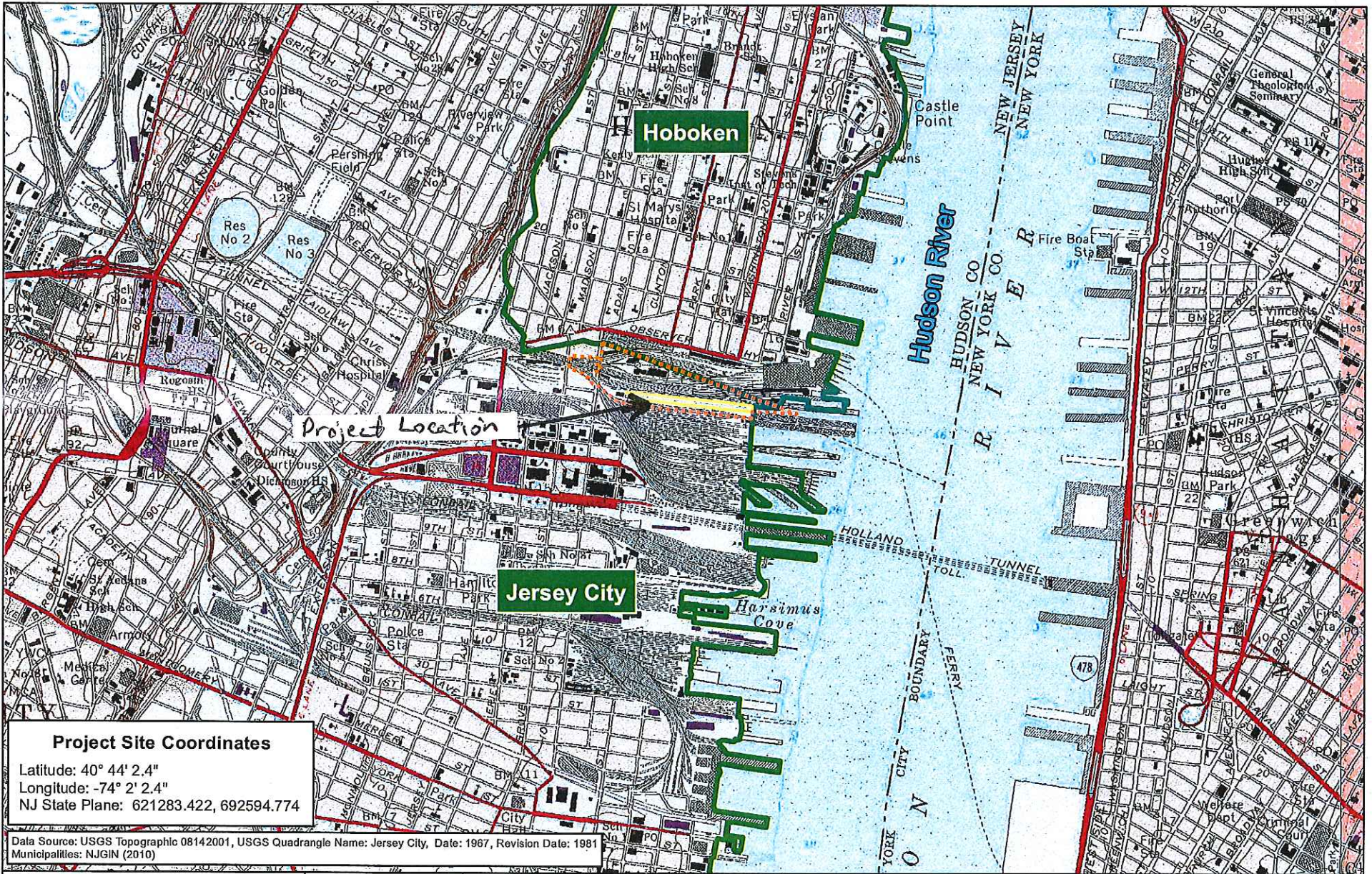


SITE LOCATION



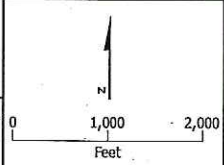
VICINITY MAP

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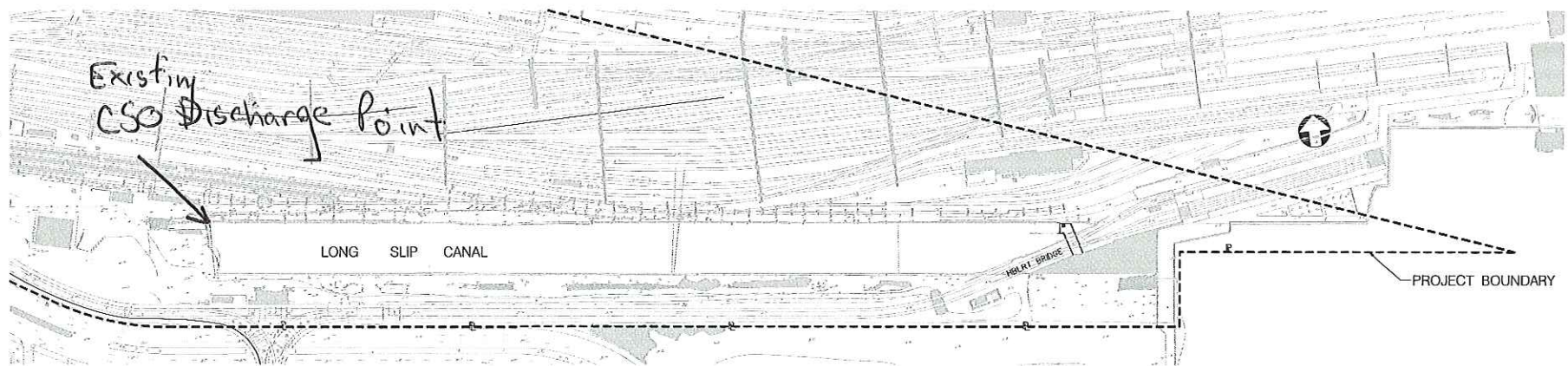
Project Site
 Long Slip Canal
 Municipal Boundaries

Long Slip Fill and Rail Enhancement Project
 City of Hoboken, Hudson County

TIERIII-1043

Figure
 USGS Site Location Map

Date:
 April 2017



EXISTING CONDITIONS PLAN VIEW
SCALE: 1" = 100'-0"

INDEX OF DRAWINGS

SHEET NO.	DWG. NO.	REV. NO.	TITLE	SHEET NO.	DWG. NO.	REV. NO.	TITLE
			PHASE I				PHASE II
1			COVER	22	CT-3870		SITE DEVELOPMENT PLAN PHASE II
2	SE-3800		LSC PLAN KEY AND INDEX OF DRAWINGS	23	SE-3873		FINAL CLOSURE COFFERDAMS SITE PLAN
3	SE-3801		ABBREVIATIONS & SYMBOLS	24	CT-3877		PHASE II CANAL FILLING PLAN SHEET 1
4	SE-3802		GENERAL NOTES	25	CT-3878		PHASE II CANAL FILLING PLAN SHEET 2
5	NR-001		ENVIRONMENTAL CONSTRAINTS MAP	26	CT-3879		CANAL FILLING SECTIONS AND DETAILS SHEET 1
6	SE-007		LSC FILL AND RAIL PROPOSED LAYOUT AND DIMENSION PLAN	27	CT-3880		CANAL FILLING SECTIONS AND DETAILS SHEET 2
7	SE-003		LSC FILL AND RAIL PROPOSED CROSS SECTION	28	CT-3881		SURCHARGE FILL AND WICK DRAIN PLAN AND DETAILS
8	SE-006		LSC FILL AND RAIL PROPOSED 18' WIDE PLATFORMS SCHEMATIC	29	CT-3882		SURCHARGE MONITORING PLAN AND DETAILS
9	CT-3800		LSC SITE DEVELOPMENT PLAN PHASE I	30	SE-005		PROPOSED MODULAR RETAINING WALL TYPICAL SECTION
10	CT-3805		LSC ACCESS AND STAGING PLAN PHASE I SHEET 1	31	NR-002		RIPARIAN ZONE MITIGATION PLAN AND PLANTING SCHEDULE
11	CT-3806		LSC ACCESS AND STAGING PLAN PHASE I SHEET 2				
12	SE-3805		CSO DIVERSION SHEET PILE PLAN				
13	SE-3806		CSO DIVERSION SECTIONS & DETAILS				
14	SE-3810		CSO COFFERDAM SHEETING PLAN SHEET 1				
15	SE-3811		CSO COFFERDAM SHEETING PLAN SHEET 2				
16	SE-3812		CSO COFFERDAM SHEETING PLAN SHEET 3				
17	SE-3816		CSO COFFERDAM SHEETING AND BRACING DETAILS SHEET 2				
18	SE-3825		TEMPORARY CANAL CLOSURE COFFERDAM SHEETING PLAN				
19	SE-3828		CANAL FILL CELL SHEETING PLAN, SECTIONS AND DETAILS				
20	CT-3833		CSO EXTENSION ACCESS AND CONSTRUCTION STAGING PLANS, SECTIONS AND DETAILS				
21	CT-3838		CSO EXTENSION BOX CULVERT INSTALLATION SECTION AND DETAILS				

NOTE:
ALL STORMWATER PLANS ARE INCLUDED WITH THE SEPARATELY BOUND STORMWATER MANAGEMENT REPORT.

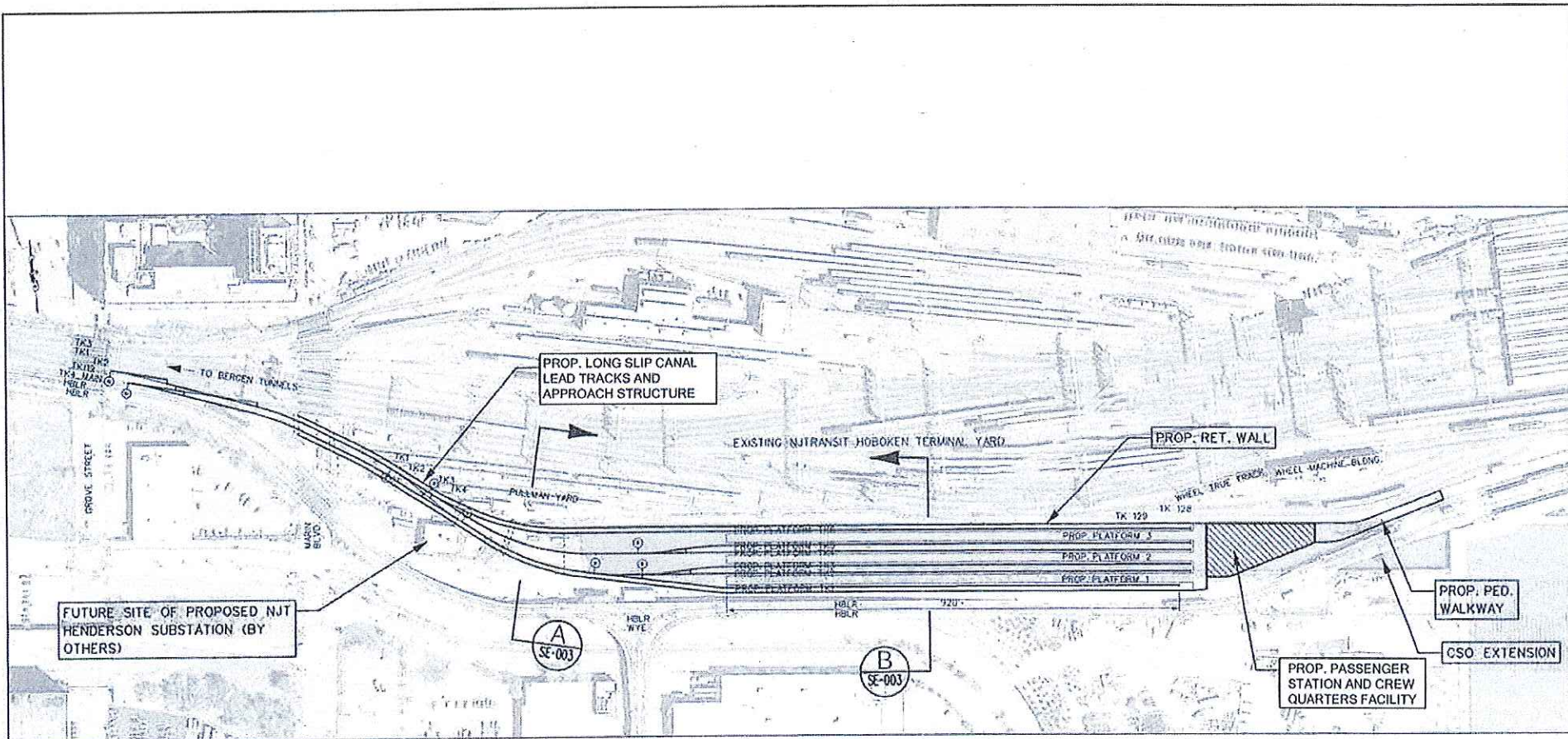
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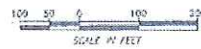
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			DRAWN:				PROFESSIONAL ENGINEER	N.J. LIC. No. 24GE024875	DRAWING No.:	SE-3800
			CHECKED:	<i>Thy Clancy</i>			REV:	SE-3800	SHEET No.:	2 of 31
			APPROVED:		DATE:	12/01/2016	DATE:	12/01/2016		

Figure 3 of 16

N:\Transit\AB\BUN\DWG\3800.DGN 12/27/16



TRACK LENGTH - 9724'
 PLATFORM LENGTH - 2854'
 WALKWAY LENGTH - 272'



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APPROVED	<i>[Signature]</i>
DATE	12/06/2010

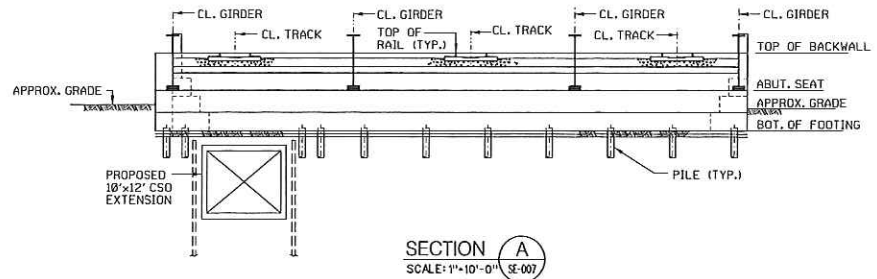
LONG SLIP CANAL FILL AND RAIL ENHANCEMENT PROJECT

LONG SLIP CANAL
 FILL AND RAIL PROPOSED LAYOUT AND DIMENSION PLAN

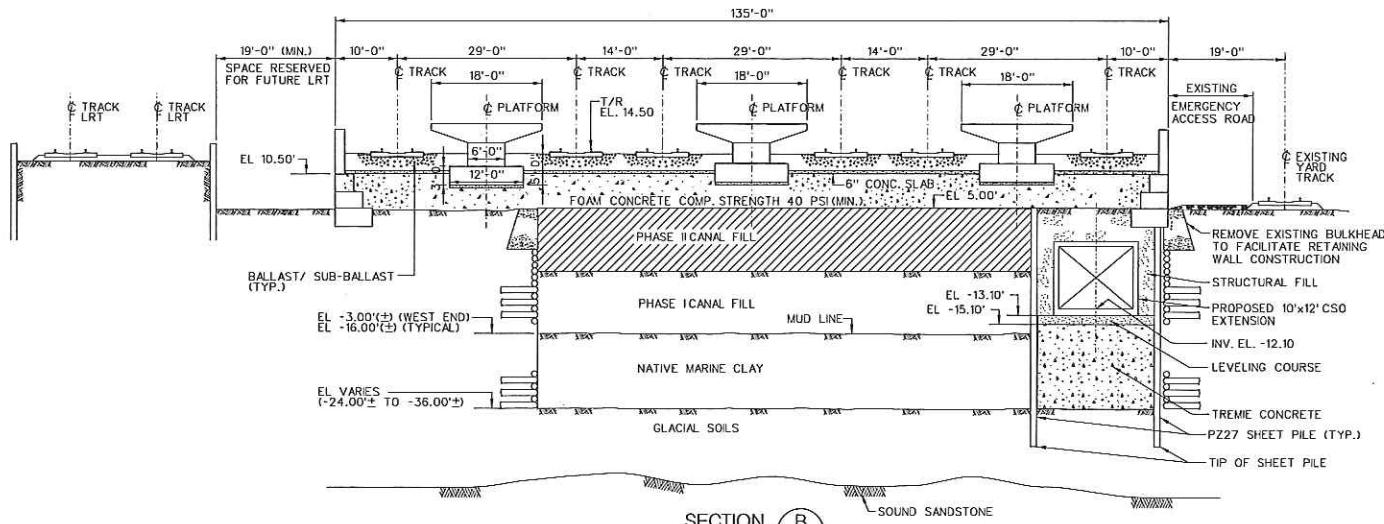
SCALE: 1" = 100'
 PROJECT: BERGEN EGM
 DRAWING NO: SE-007
 DATE: 12/06/2010

CONTRACT NO: 15506
 PERMIT
 SHEET NO: 6 OF 31

Figure 4 of 16



SECTION A
SCALE: 1"=10'-0" SE-007



SECTION B
SCALE: 1"=10'-0" SE-007

- NOTES:
1. VERTICAL ELEVATION DATUM IS 1988 NAVD.
 2. PRIOR TO PHASE II FILL AND SLAB CONSTRUCTION, INSTALL WICK DRAIN AND SURCHARGE FILL PROGRAM IN ACCORDANCE WITH PRIOR DESIGN DRAWINGS AND SPECIFICATIONS.
 3. INSTALL WICK DRAINS AT 5'-0" SPACING FROM EL. 5.00' TO BOTTOM OF MARINE CLAY. PLACE TEMPORARY SURCHARGE FILL TO EL. 17.00' (MAINTAIN GRADE AT EL. 17.00' AS GROUND SETTLES). AFTER COMPLETION OF TEMPORARY SURCHARGE, EXCAVATE TO EL. 5.00'. CONTINUE CONSTRUCTION FROM EL. 5.00'.

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DATE:	12/01/2016

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PROFESSIONAL ENGINEER
N.J. LIC. No. 24GE024875

LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

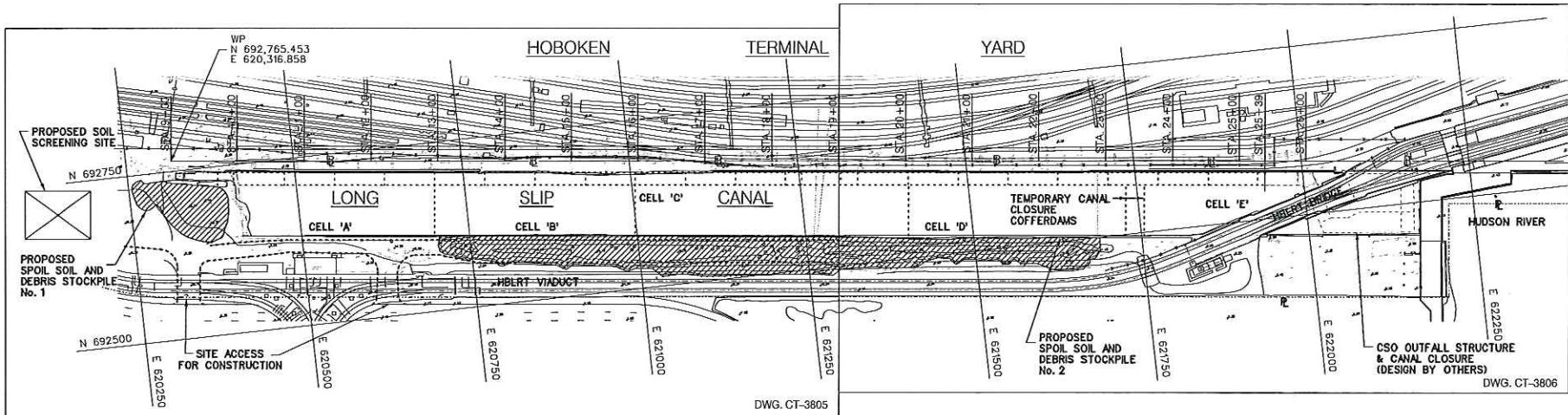
LONG SLIP CANAL
FILL AND RAIL
PROPOSED CROSS SECTION

SCALE:	AS SHOWN	CONTRACT No.	
FILE NAME:	SE003 DGN	ISSUE	
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Figure 5 of 16

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DRAWING: SE-003

H:\BID\LONGSLIP\VID\CT3860.DGN 5/08/03



SITE DEVELOPMENT PLAN - PHASE I

SCALE: 1" = 80'-0"

GENERAL NOTES:

LONG SLIP CANAL FILLING SEQUENCE AND PREPARATION METHOD

(PRIOR TO CANAL FILLING)

1. INSTALL SHEET PILING FOR CSO DIVERSION CHANNEL WEST OF CELL A.
2. EXCAVATE AREA BETWEEN CSO DIVERSION SHEET PILING TO EL -12.10'.
3. DREDGE TEMPORARY DIVERSION CHANNEL IN LONG SLIP FOR CSO FLOW PASSAGE AS SHOWN ON DWG.
4. INSTALL SHEET PILING AND BRACING FOR FUTURE CSO BOX CULVERT CONSTRUCTION AND PARTITION DIAPHRAGMS BETWEEN CELLS.
5. EXCAVATE AND REMOVE ALL SOFT MUD (MARINE CLAY) WITHIN THE CSO COFFERDAM TO EXPOSE THE UNDERLYING GRANULAR GLACIAL SOILS. EXCAVATED MATERIALS SHALL BE EVENLY SPREAD USING AN APPROXIMATE ONE FOOT LIFT AND DEPOSITED IN AREAS AWAY FROM TEMPORARY DIVERSION CHANNEL WITHIN LONG SLIP.

GENERAL SEQUENCE OF CONSTRUCTION

(SHEET PILE INSTALLATION AND PHASE I CANAL FILL)

1. REMOVE/SCREEN EXISTING ON-SITE SPOIL MATERIAL.
2. STOCK PILE SCREENED MATERIAL ON-SITE; DISPOSE DEBRIS OFF-SITE.
3. CONSTRUCT TEMPORARY CSO BY-PASS.
4. INSTALL CSO COFFERDAM.
5. INSTALL TEMPORARY CANAL CLOSURE COFFERDAM.
6. INSTALL CANAL FILL CELL SHEETING.
7. EXCAVATE MARINE CLAY SOILS WITHIN COFFERDAMS, PLACE IN CANAL WEST OF TEMPORARY CLOSURE.
8. INSTALL TREMIE CONCRETE PLUG WITHIN CSO COFFERDAM.
9. PLACE GEOTEXTILE/GEOGRID STABILIZATION BLANKET IN CANAL.
10. PLACE INITIAL CANAL FILL UP TO ELEVATION SHOWN.
11. MAINTAIN CSO FLOW IN CANAL THROUGHOUT CONSTRUCTION STAGES.

PLACEMENT OF UPLAND FILL INCLUDING EXISTING STOCKPILES

ADJACENT TO THE CANAL

GENERAL REQUIREMENT

1. ALL UPLAND FILL SOILS ARE TO BE SCREENED AND UNSUITABLE MATERIALS DISPOSED OF OFF-SITE. UNSUITABLE MATERIALS ARE DEFINED AS CONCRETE RUBBLES, CONSTRUCTION DEBRIS, METALS AND OVERSIZE (LARGER THAN 0.5 FEET IN DIAMETER) ROCK AND BOULDERS.
2. PRIOR TO RECEIVING UPLAND FILL, BOTTOM OF CHANNEL SHALL BE LINED WITH ONE LAYER OF FILTER FABRIC, AND ONE LAYER OF BIAXIAL GEOGRID. OVERLAPPING OF THE GEO-TEXTILE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
3. UPLAND FILL SHALL BE PLACED ON TOP OF THE GEOGRID USING A MAXIMUM 1 FOOT THICK LOOSE LIFT. THIS WILL REQUIRE CLAM SHELL BUCKET TO BE OPENED AND FILL MATERIALS TO BE DEPOSITED BELOW WATER AND DRAGGED ALONG THE LONGITUDINAL DIRECTION OF THE CHANNEL.
4. WHEN UPLAND FILL PLACEMENT REACHES 3 FEET THICK, ADDITIONAL LAYER OF BIAXIAL GEOGRID SHALL BE PLACED TO STABILIZE FILL MATERIAL AND MINIMIZE MOVEMENT OF THE UNDERLYING MARINE CLAY.
5. MAXIMUM DIFFERENTIAL IN FILL HEIGHT BETWEEN CELL PARTITION DIAPHRAGMS SHALL NOT EXCEED 4 FEET.

PHASE I CANAL FILLING

(CSO COFFERDAM AND BRACING IN PLACE AND TREMIE CONCRETING COMPLETE)
PHASE I CANAL FILLING SHALL BE LIMITED TO THE FILLING OF CELLS A, B, C AND D ONLY.

CELL A

FILLING SHALL BE LIMITED TO AN AREA BOUNDED BY THE SOUTH BULKHEAD WALL AND 40 FEET NORTH OF THE SAME BULKHEAD AND UP TO MAXIMUM EL -1.10'.

CELLS B, C & D

FILLING SHALL BE LIMITED UP TO MAXIMUM EL -6.10'.

CELL E

NO FILLING IS PERMITTED EAST OF THE TEMPORARY CLOSURE COFFERDAM

SESC

1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION DRIVEWAY AND PUBLIC R.O.W.
2. PLACE STABILIZED CONSTRUCTION DRIVEWAY AT LOCATION(S) PER THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. THE STABILIZED CONSTRUCTION DRIVEWAY SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING AND FLOWING OF SEDIMENT ONTO THE PUBLIC P.O.W./PAVEMENT. THIS REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITION LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURE USED TO TRAP SEDIMENT OR AS MAYBE REQUIRED BY THE DISTRICT AS CONDITIONS DEMAND.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACK ONTO PUBLIC P.O.W./PAVEMENT MUST BE REMOVED IMMEDIATELY.
5. WHERE TRACKING OF SOIL ONTO ROADWAYS IS A CONTINUAL OCCURRENCE, ALL CONTRACTORS SHALL BE REQUIRED TO BROOM SWEEP THE ROADWAY AT TWO HOUR INTERVALS MINIMUM AND PRIOR TO LEAVING THE CONSTRUCTION SITE AT THE END OF THE DAY.
6. PLACE SILT FENCE AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
7. SILT FENCE SHALL BE INSTALLED SO WATER CANNOT BYPASS THE ENDS OF THE BARRIERS.
8. FOR EXISTING INLET STRUCTURES PLACE GEOTEXTILE FABRIC WITHOUT WELDED WIRE SUPPORT UNDER GRATE AND AREA CURB PIECE.

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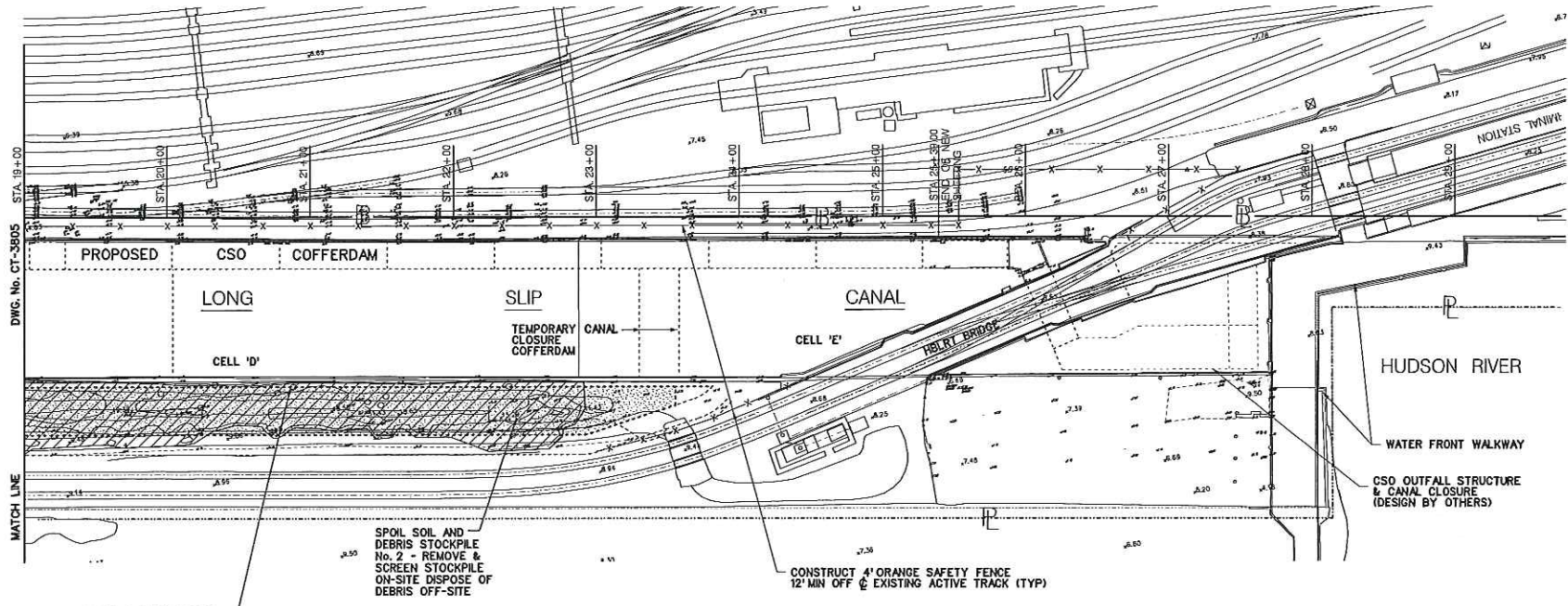
DESIGNED	THOMAS J. CLAVY PROFESSIONAL ENGINEER N.J.L.C. No. 246004805
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CHECKED	<i>T.J. Clavy</i>
APPROVED	
DATE:	12/01/2016

LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

CSO EXTENSION AND
PHASE I CANAL FILLING
LSC SITE DEVELOPMENT PLAN
PHASE I

SCALE: 1" = 80'	CONTRACT No.
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DRAWING NO.: CT-3800	PERMIT
DATE: 12/01/2016	SHEET No. 9 OF 31

Figure 6 of 16



SHEET PILE EQUIPMENT ACCESS AND OPERATION AREA (SOUTH BULKHEAD ONLY)

SPOIL SOIL AND DEBRIS STOCKPILE No. 2 - REMOVE & SCREEN STOCKPILE ON-SITE DISPOSE OF DEBRIS OFF-SITE

CONSTRUCT 4" ORANGE SAFETY FENCE 12' MIN OFF OF EXISTING ACTIVE TRACK (TYP)

ACCESS AND STAGING PLAN
SCALE: 1" = 40'-0"

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CHECKED: *TJ Clancy*
APPROVED: *TJ Clancy*
DATE: 12/01/2016

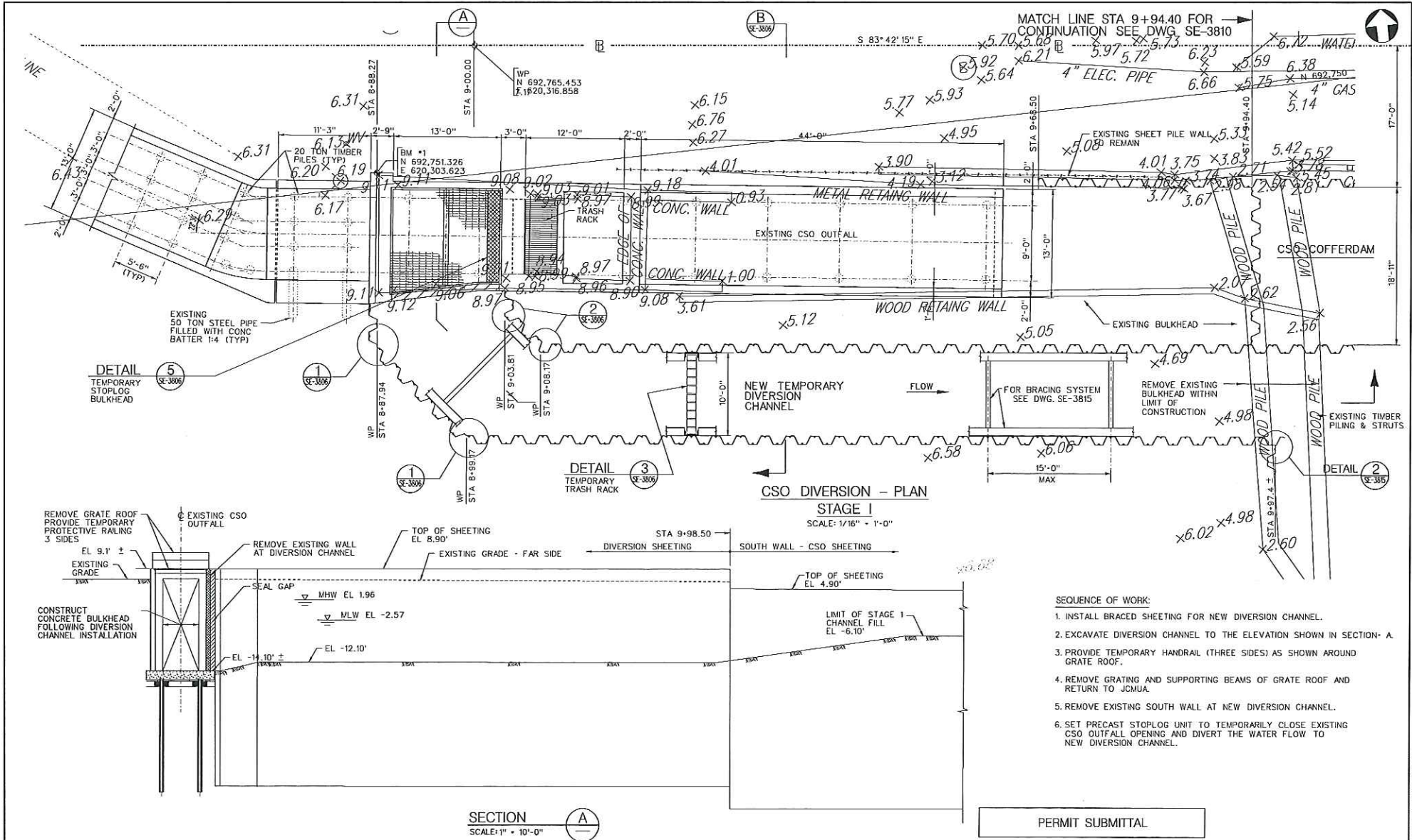
LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

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PHASE I CANAL FILLING
LSC
ACCESS AND STAGING PLAN PHASE I
SHEET 2

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DATE: 12/01/2016	SHEET No. 11 OF 31

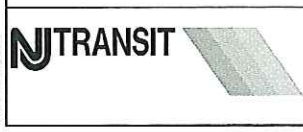
Figure 8 of 16

H:\BIDS\LONGSLIP\BID\CT3806.DGN 3/26/03



- SEQUENCE OF WORK:
1. INSTALL BRACED SHEETING FOR NEW DIVERSION CHANNEL.
 2. EXCAVATE DIVERSION CHANNEL TO THE ELEVATION SHOWN IN SECTION - A.
 3. PROVIDE TEMPORARY HANDRAIL (THREE SIDES) AS SHOWN AROUND GRATE ROOF.
 4. REMOVE GRATING AND SUPPORTING BEAMS OF GRATE ROOF AND RETURN TO JCMUA.
 5. REMOVE EXISTING SOUTH WALL AT NEW DIVERSION CHANNEL.
 6. SET PRECAST STOPLOG UNIT TO TEMPORARILY CLOSE EXISTING CSO OUTFALL OPENING AND DIVERT THE WATER FLOW TO NEW DIVERSION CHANNEL.

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N.J. LIC. NO. 246E024875

DRAWN: *Thy Clancy*

CHECKED:

APPROVED:

DATE: 12/01/2016

LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

CSO EXTENSION AND
PHASE I CANAL FILLING
CSO DIVERSION SHEET PILE
PLAN

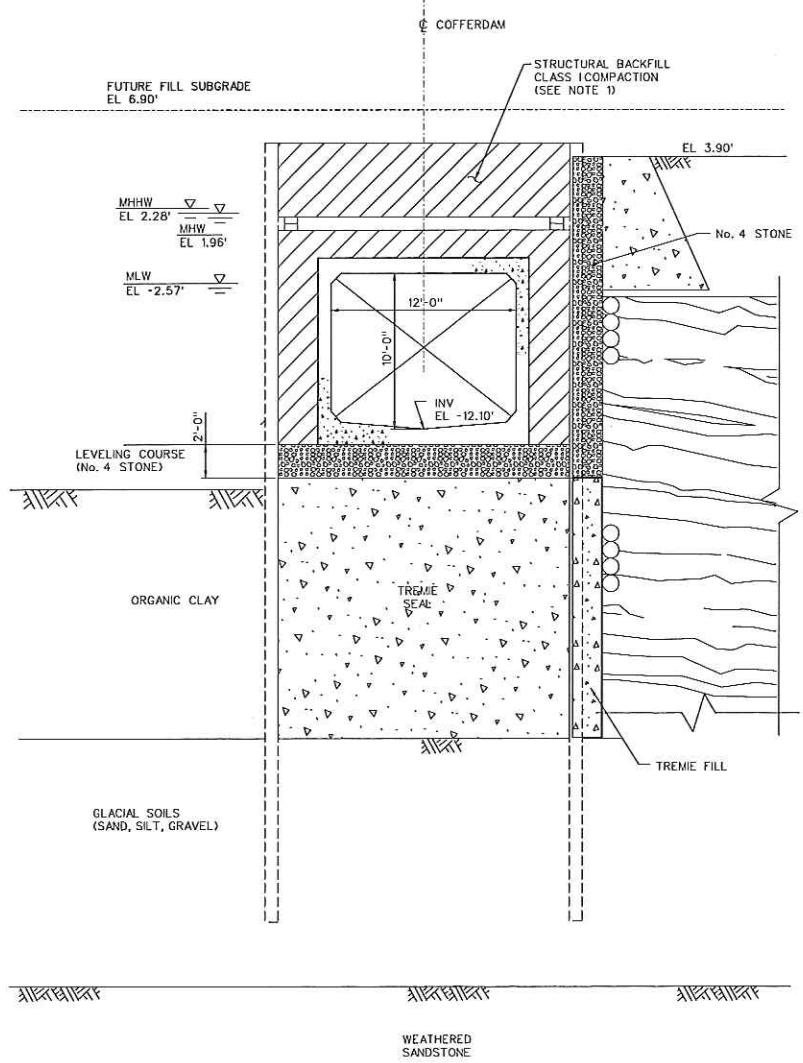
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Figure 9 of 16

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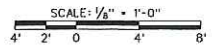
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NOTE:
 1. IN LIEU OF COMPACTED STRUCTURAL BACKFILL, THE CONTRACTOR MAY PROPOSE A "FLOWABLE FILL" (CONTROLLED LOW STRENGTH MATERIAL) AS AN OPTIONAL BACKFILL FOR THE CSO COFFERDAM.

SECTION A
 SCALE: 1/8" = 1'-0"

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DATE:	12/01/2016

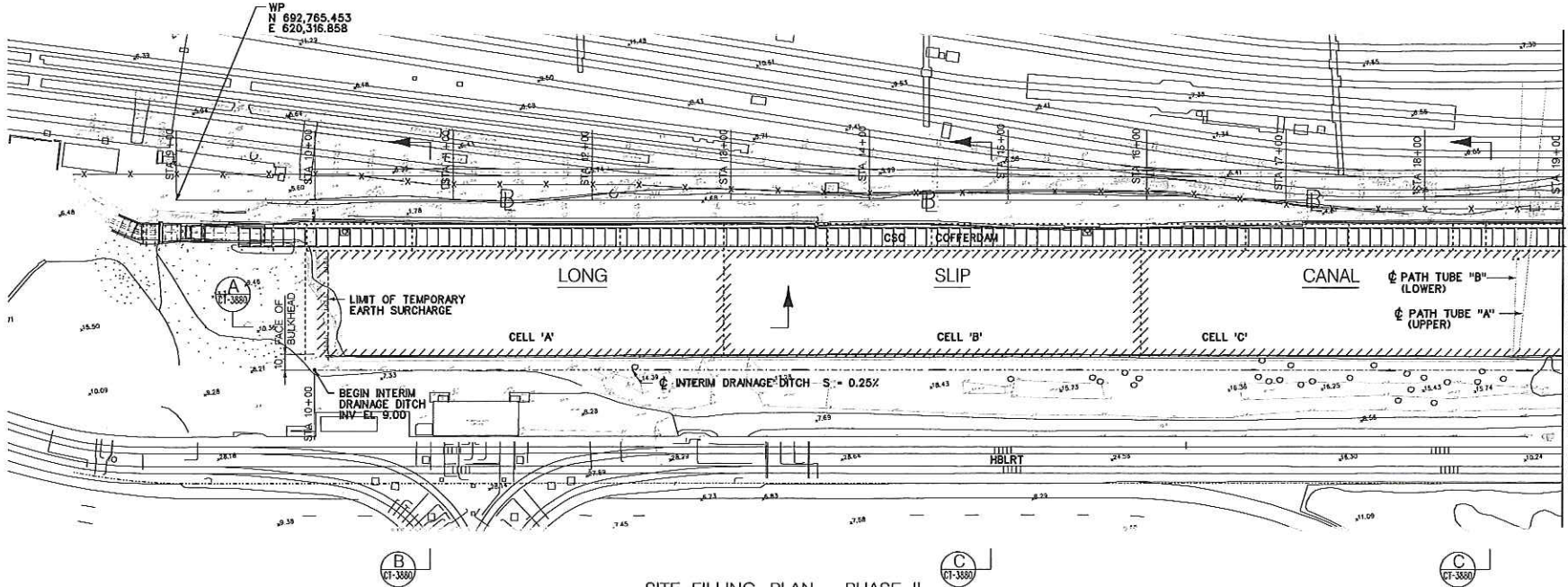
LONG SLIP
 CANAL FILL AND
 RAIL ENHANCEMENT
 PROJECT

CSO EXTENSION AND
 PHASE I CANAL FILLING
 CSO EXTENSION
 BOX CULVERT INSTALLATION
 SECTIONS AND DETAILS

SCALE:	18" = 1'-0"	CONTRACT No.	
FEE NAME:	CT3838.DGN	ISSUE	
DRAWING No.:	CT-3838	PERMIT	
DATE:	12/01/2016	SHEET No.	21 OF 31

Figure 10 of 16

H:\BOS\LONGSLIP\BOS\CT3838.DGN, 3/21/03



SITE FILLING PLAN - PHASE II
SCALE: 1" = 40'-0"

MATCH LINE FOR CONTINUATION SEE DWG CT-3878

NOTES:

1. FOR FILLING SEQUENCE OF CANAL CELLS SEE DWG CT-3879.

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BRUNDA:RDS:ADD



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APPROVED:	
DATE:	12/01/2016

**LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT**

**PHASE II
CANAL CLOSURE AND
SURCHARGE PROGRAM**

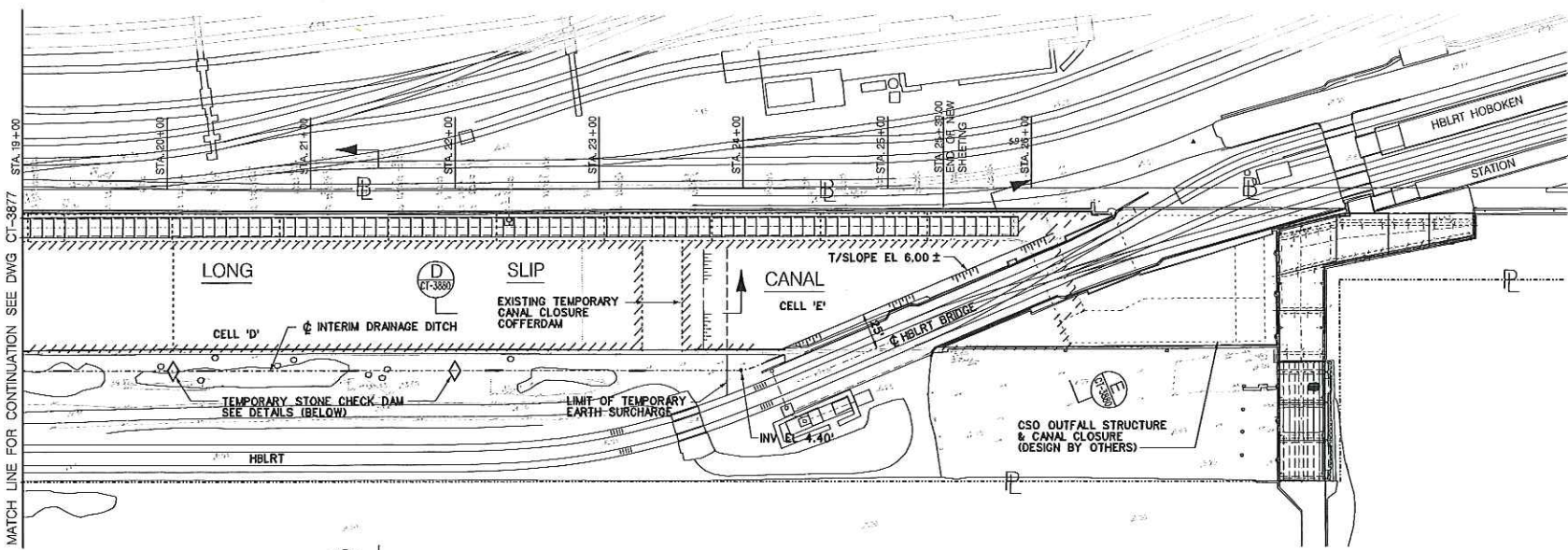
**PHASE II
CANAL FILLING PLAN
SHEET 1**

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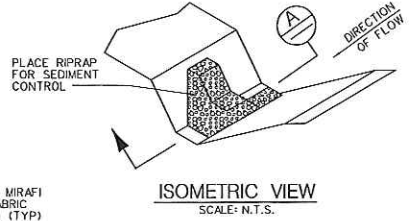
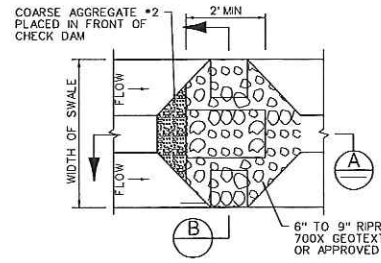
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ISSUE	PERMIT
SHEET No.	24 OF 31

Figure 11 of 16

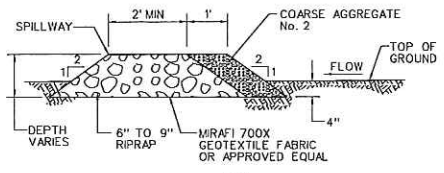
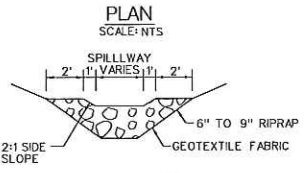
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SITE FILLING PLAN - PHASE II
SCALE: 1" = 40'-0"



ISOMETRIC VIEW
SCALE: N.T.S.



TEMPORARY STONE CHECK DAM DETAILS
SCALE: N.T.S.

NOTES:

1. FOR FILLING SEQUENCE OF CANAL CELLS SEE DWG CT-3879.

PERMIT SUBMITTAL

Tuesday, November 24, 2015 4:25:57 PM
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DESIGNED:	THOMAS J. CLAUY PROFESSIONAL ENGINEER N.J. LIC. No. 24GE024875
DRAWN:	
CHECKED:	<i>T.J. Clauy</i>
APPROVED:	
DATE:	12/01/2016
REVISIONS:	

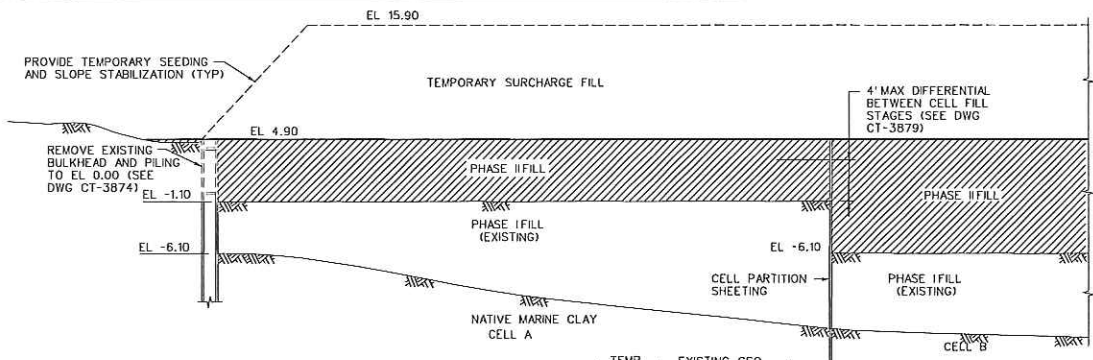
LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

PHASE II
FINAL CANAL CLOSURE AND
SURCHARGE PROGRAM
PHASE II
CANAL FILLING PLAN
SHEET 2

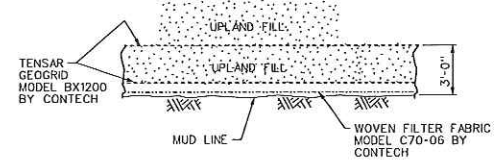
SCALE: 1" = 40'-0"	CONTRACT No.
FREE NAME: CT3878 DGN	ISSUE
DRAWING No.: CT-3878	PERMIT
DATE: 12/01/2016	SHEET No. 25 of 31

Figure 12 of 16

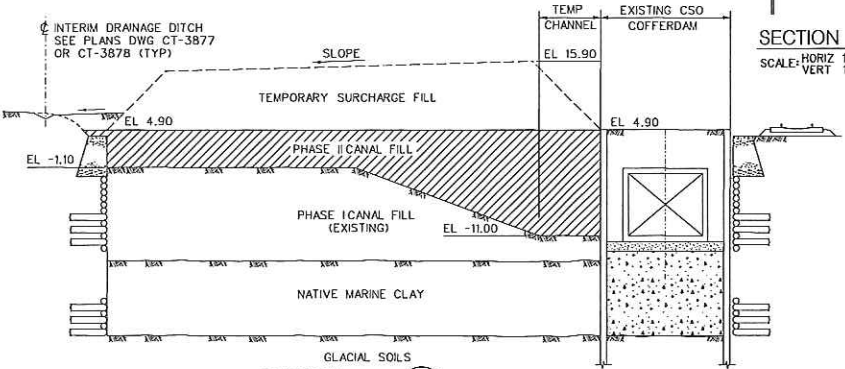
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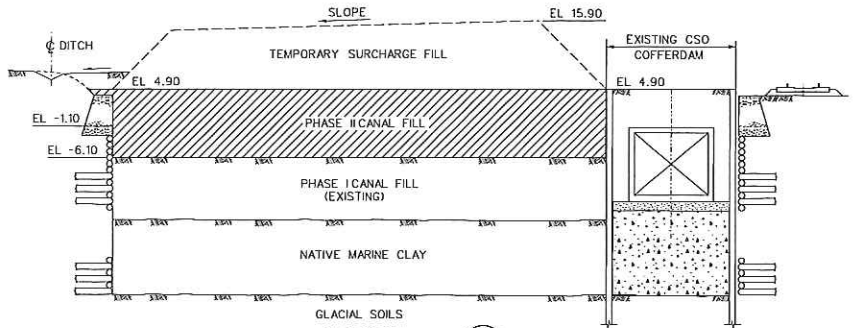
SECTION A
SCALE: HORIZ 1" = 60'-0"
VERT 1" = 12' CT-3877



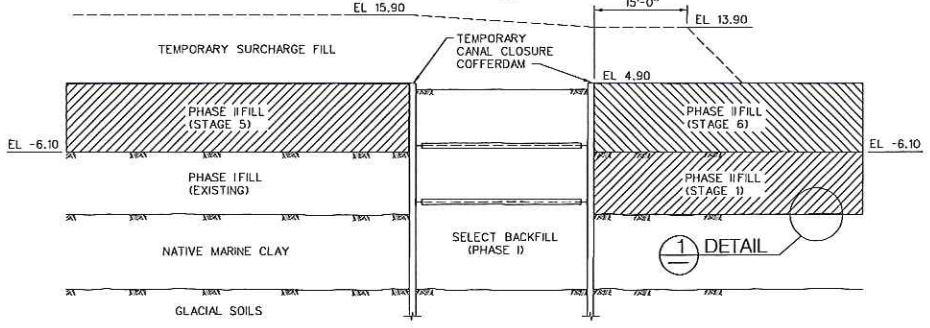
DETAIL 1
SCALE: NTS
SOIL REINFORCEMENT DETAIL



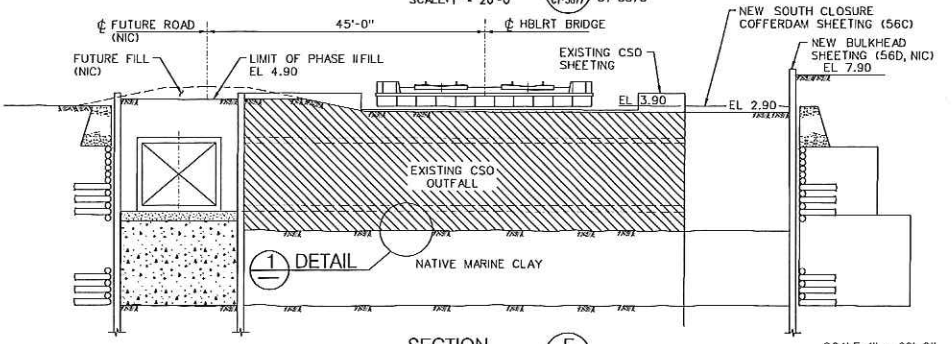
SECTION B
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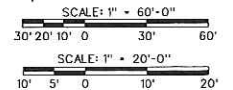
SECTION C
SCALE: 1" = 20'-0" CT-3878



SECTION D
SCALE: 1" = 20'-0" CT-3878



SECTION E
SCALE: 1" = 20'-0" CT-3878



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DATE	REVISIONS

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DRAWN:	
CHECKED:	<i>T.J. Clary</i>
APPROVED:	
DATE:	12/01/2016

LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

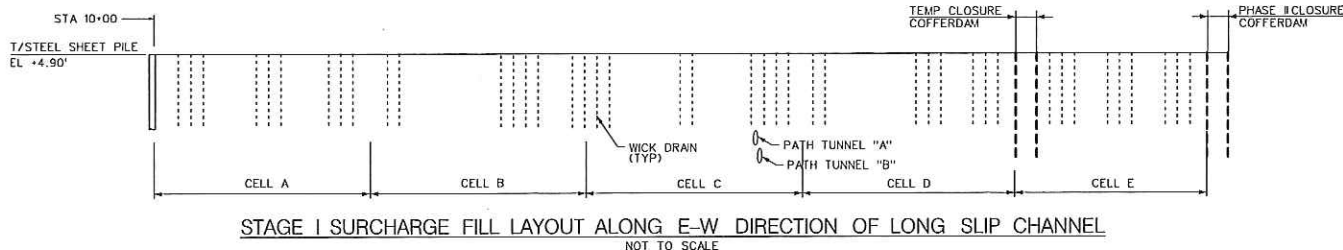
PHASE II
CANAL CLOSURE AND
SURCHARGE PROGRAM
CANAL FILLING
SECTIONS & DETAILS
SHEET 2

SCALE:	AS SHOWN	CONTRACT No.	
FEE NAME:	CT3880 DGN	ISSUE	
DRAWING No.:	CT-3880	PERMIT	
DATE:	12/01/2016	SHEET No.	27 of 31

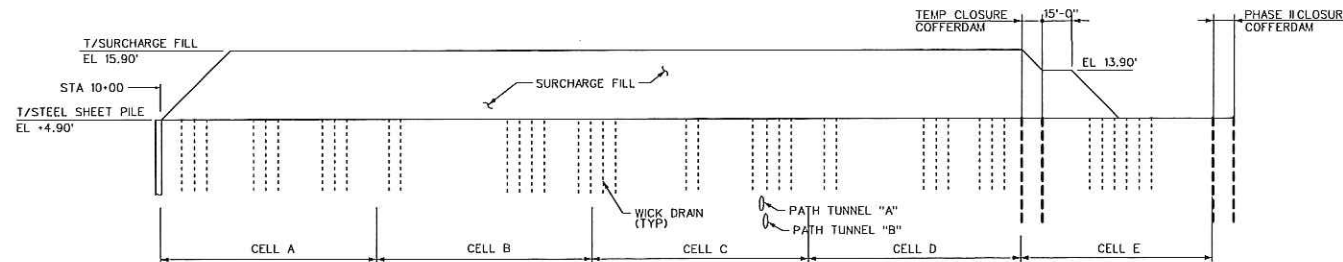
Figure 13 of 16

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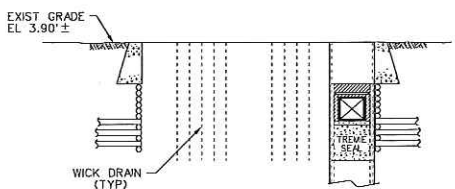
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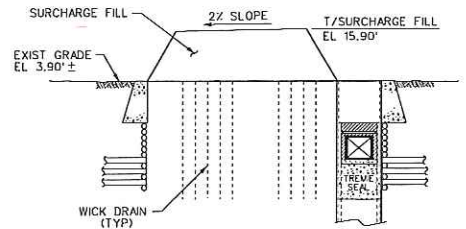
STAGE I SURCHARGE FILL LAYOUT ALONG E-W DIRECTION OF LONG SLIP CHANNEL
NOT TO SCALE



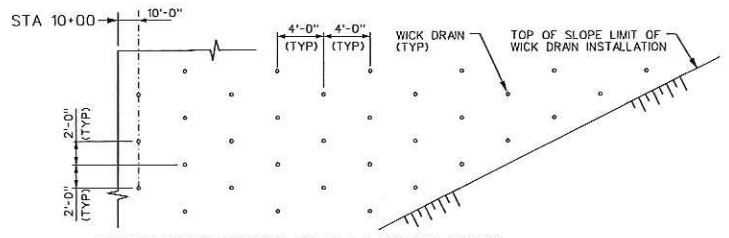
STAGE II SURCHARGE FILL LAYOUT ALONG E-W DIRECTION OF LONG SLIP CHANNEL
NOT TO SCALE



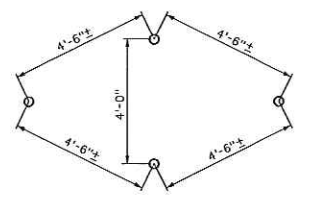
STAGE I SURCHARGE FILL LAYOUT ALONG N-S DIRECTION OF LONG SLIP CHANNEL (LOOKING WEST)
NOT TO SCALE



STAGE II SURCHARGE FILL LAYOUT ALONG N-S DIRECTION OF LONG SLIP CHANNEL (LOOKING WEST)
NOT TO SCALE



SURCHARGE WICK DRAIN LAYOUT PLAN
NOT TO SCALE



TYPICAL WICK DRAIN TRIANGULAR PATTERN
NOT TO SCALE

WICK DRAIN PLACEMENT

1. STAKE OUT WICK DRAIN LOCATIONS BASED ON THE LAYOUT PLAN SHOWN ON THE DRAWING.
2. INSTALL WICK DRAINS BELOW THE BOTTOM OF MARINE CLAY AND ANCHOR WICK DRAINS 1 TO 2 FEET INTO GLACIAL SOILS. (SEE CAUTION BELOW)
3. ESTIMATED LENGTHS OF WICK DRAINS FOR EACH CELL:
 - CELL A : 29'
 - CELL B : 30'
 - CELL C : 37' (SEE CAUTION BELOW)
 - CELL D : 38'
 - CELL E : 39'

LONG SLIP CHANNEL SURCHARGE PROGRAM

- STAGE I SURCHARGE
1. AFTER THE FILL PLACEMENT FOR CELLS A, B, C, D AND E REACHES EL +4.90' WICK DRAIN INSTALLATION SHALL BEGIN. TIMBER CRIBBING OR CRANE MATS SHOULD BE UTILIZED AS REQUIRED FOR SOFT GROUND CONDITION DURING INSTALLATION OF WICK DRAINS.
 2. WICK DRAINS SHALL BE INSTALLED USING A 4 FEET SPACING (TRIANGULAR PATTERN) AS SHOWN ON THE DRAWING. WICK DRAINS SHALL BE EXTENDED BELOW BOTTOM OF MARINE CLAY AND ANCHORED APPROXIMATELY 1 TO 2 FT INTO THE UNDERLYING GLACIAL SOILS.
 3. PIEZOMETERS AND SETTLEMENT PLATES SHALL THEN BE INSTALLED TO MONITOR THE PERFORMANCE OF SURCHARGE PROGRAM. PIEZOMETER AND SETTLEMENT PLATE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LOCATION AS SHOWN ON DRAWING AND FOLLOW THE INSTRUCTION RECOMMENDED BY THE MANUFACTURER.
- STAGE II SURCHARGE
1. AT THE COMPLETION OF STAGE I SURCHARGE, EXTEND THE CASINGS AND READ-OUTS OF THE PIEZOMETERS AND SETTLEMENT PLATES TO ACCOMMODATE A SURCHARGE FILL HEIGHT OF EL +15.90'.
 2. ADDITIONAL SURCHARGE FILL SHALL THEN BE PLACED TO AN EL +15.90'. SURCHARGE FILL PLACEMENT SHALL BE PERFORMED USING A 1 FOOT LOOSE LIFT AND COMPACTED BY A HEAVY VIBRATORY ROLLER FOR A MINIMUM OF 5 PASSES. EXTREME CARE SHALL BE EXERCISED NOT TO DAMAGE INSTRUMENTS DURING FILL PLACEMENT.

CAUTION - RESTRICTED AREA

CONTRACTOR IS REQUIRED TO ACCURATELY DETERMINE THE HORIZONTAL & VERTICAL LOCATION OF PATH TUNNEL "A" IN CLOSE COORDINATION WITH THE PORT AUTHORITY PRIOR TO INITIATING ANY WICK DRAIN INSTALLATION WITHIN THE PATH RIGHT OF WAY.

NO CONSTRUCTION ACTIVITY OR DISTURBANCE IS PERMITTED WITHIN FIVE (5) FEET OF THE OUTSIDE FACE OF THE PATH TUNNELS.

THE CONTRACTOR'S INSTALLATION PROCEDURE AND SCHEDULE SHALL BE APPROVED BY THE PORT AUTHORITY & NJ TRANSIT BEFORE BEGINNING WORK. SEE CONTRACT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

NOTE:
WICK DRAIN DISCHARGE WILL BE CONDUCTED UNDER THE EXISTING HOBOKEN YARD B4B PERMIT.

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DATE:	REVISONS

DESIGNED:	THOMAS J. CLANCY PROFESSIONAL ENGINEER N.J. LIC. No. 2466024875
DRAWN:	
CHECKED:	
APPROVED:	<i>TJ Clancy</i>
DATE:	12/01/2016

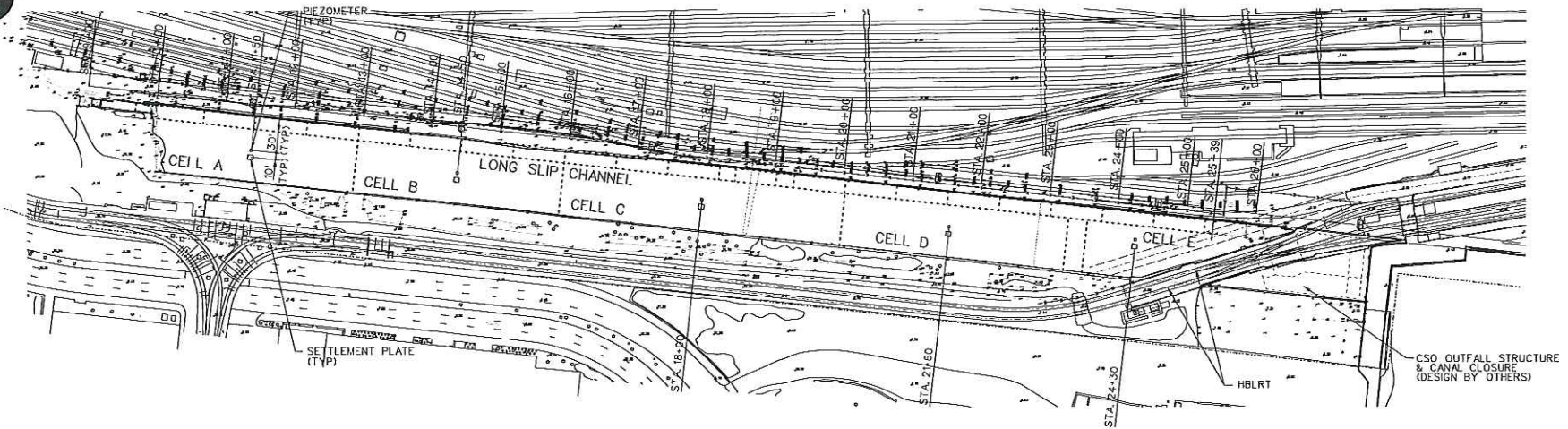
LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

PHASE II
CANAL CLOSURE AND
SURCHARGE PROGRAM
SURCHARGE FILL AND WICK DRAIN
PLAN AND DETAILS

SCALE:	NONE	CONTRACT No.:	
FEE NAME:	CT3881 DGN	ISSUE:	
DRAWING No.:	CT-3881	PERMIT	
DATE:	12/01/2016	SHEET No.:	28 OF 31

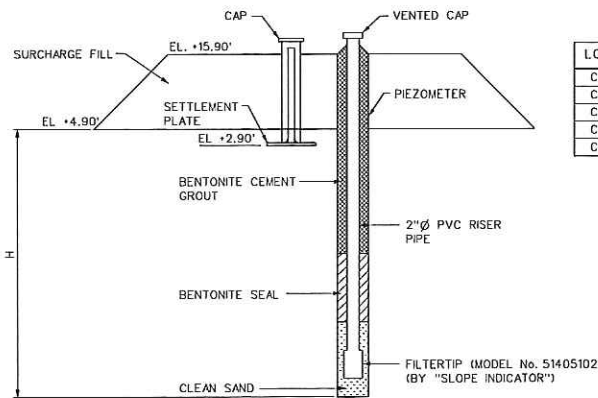
Figure 14 of 16

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PIEZOMETER AND SETTLEMENT PLATE LOCATION

SCALE: 1"=80'-0"



LOCATION	H (FEET)
CELL A	22
CELL B	22
CELL C	25
CELL D	27
CELL E	30

TYPICAL SECTION AT PIEZOMETER AND SETTLEMENT PLATE

(WICK DRAIN NOT SHOWN FOR CLARITY)
SCALE: 1"=10'-0"

PLACEMENT OF PIEZOMETER AND SETTLEMENT PLATES:

1. STAKE OUT PIEZOMETER AND SETTLEMENT PLATES BASED ON LOCATIONS SHOWN ON THE DRAWING.
2. AUGERED HOLES SHALL BE EXTENDED TO A DEPTH AS SHOWN FOR EACH CELL USING A BORING MACHINE.
3. LOWER FILTER TIP OF PIEZOMETER INTO AUGERED HOLE AND PLACE SAND AROUND FILTER TIP UP TO 3 FEET AROUND, AND BACKFILL REMAINING HOLE WITH BENTONITE AND BENTONITE-CEMENT GROUT.
4. INSTALL SETTLEMENT PLATES WITH TELLTALE PIPE WELDED TO STEEL PLATE AND ENCLOSED BY STEEL CASING. PLATE SHALL BE ALLOW TO MOVE VERTICALLY INDEPENDENT OF STEEL CASING.

PIEZOMETER AND SETTLEMENT PLATE MONITORING:

1. TAKE BENCH MARK READINGS IMMEDIATELY AFTER THE INSTALLATION OF PIEZOMETERS AND SETTLEMENT PLATES.
2. TAKE INITIAL READINGS WITHIN 24 HOURS AFTER THE SURCHARGE FILL PLACEMENT IS COMPLETED FOR EACH CELL.
3. TAKE READINGS EVERY 2 DAYS FOR THE FIRST 2 WEEKS OF SURCHARGING.
4. AFTER THE FIRST TWO WEEKS OF SURCHARGING OBTAIN READINGS ON A WEEKLY INTERVAL FOR 1 MONTH.
5. TAKE PIEZOMETER AND SETTLEMENT PLATE READINGS ON A BI-WEEKLY INTERVAL THERE AFTER FOR THE BALANCE OF THE STAGE II SURCHARGE PERIOD (4-6 MONTHS) OR AS DETERMINED BY THE PROJECT MANAGER.
6. FOLLOWING PLACEMENT OF THE STAGE II SURCHARGE, REPEAT THE MONITORING PROCEDURE INDICATED IN NOTES 1-5 FOR THE BALANCE OF THE STAGE II SURCHARGE PERIOD (4-6 MONTHS) OR AS DETERMINED BY THE PROJECT MANAGER.
7. ALL READINGS OBTAINED FROM PIEZOMETERS AND SETTLEMENT PLATES SHALL BE GRAPHICALLY PLOTTED AND FORWARDED TO PROJECT MANAGER FOR REVIEW ONE DAY AFTER THE READINGS ARE OBTAINED.

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CHECKED:	<i>T.J. Clancy</i>
APPROVED:	
DATE:	12/01/2016

DATE:	12/01/2016
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LONG SLIP
CANAL FILL AND
RAIL ENHANCEMENT
PROJECT

PHASE II
CANAL CLOSURE AND
SURCHARGE PROGRAM
SURCHARGE MONITORING
PLAN AND DETAILS

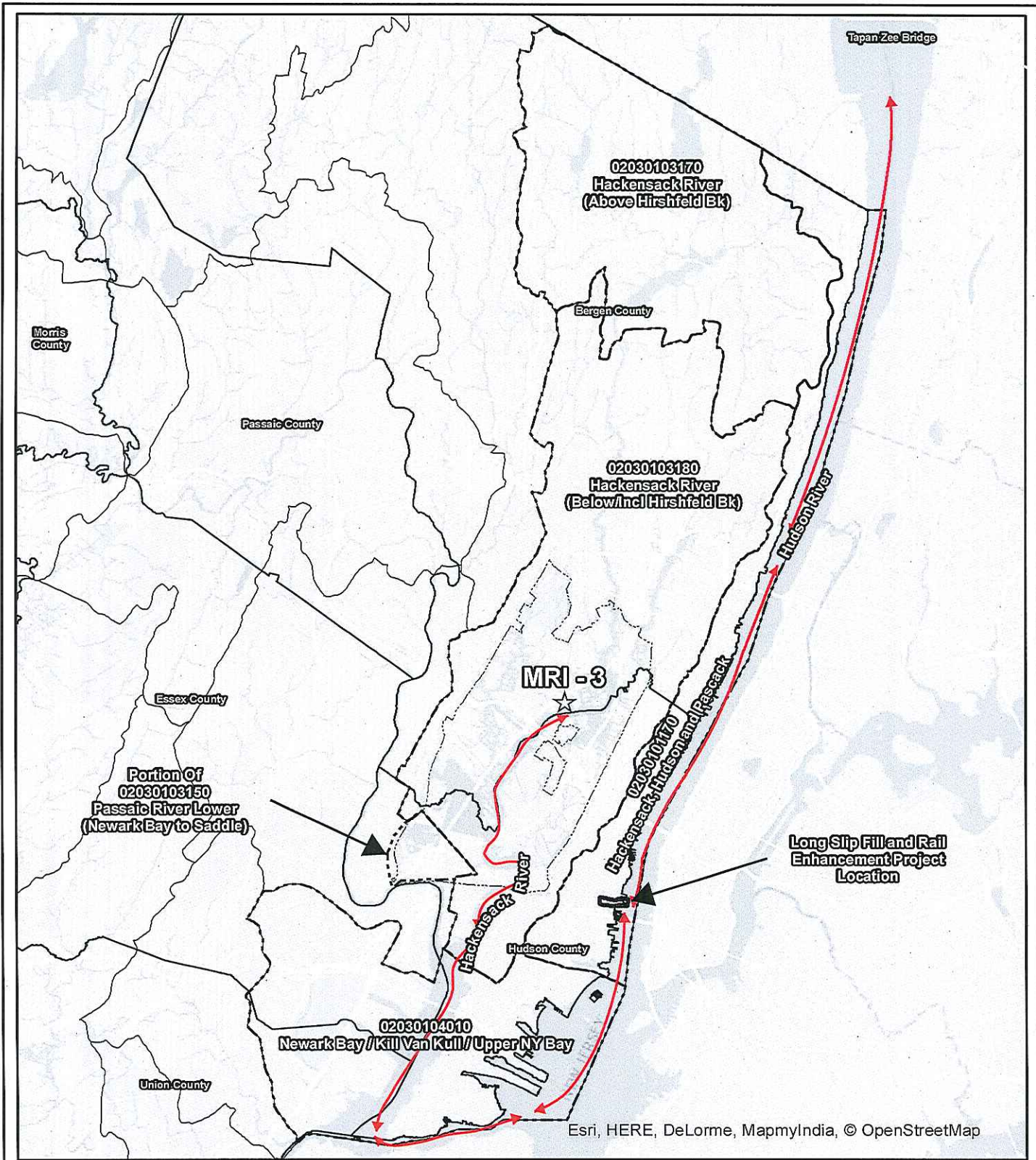
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DRAWING No.:	CT-3882
REV.:	
DATE:	12/01/2016

CONTRACT No.	
ISSUE	PERMIT
SHEET No.	29 of 31

Figure 15 of 16

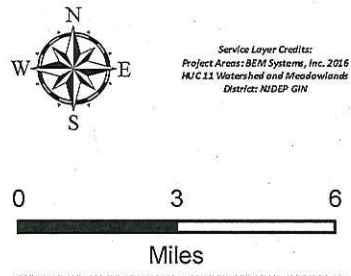
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Figure 16 of 16



Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap

- Legend**
- ☆ MRI-3 Mitigation Bank
 - MRI-3 Service Area / HUC11
 - ▭ Hoboken Yard and Terminal Property
 - HUC 11 Watershed
 - ▭ Meadowlands District
 - ↔ Hydrologic Connectivity
 - ↔ Finfish Nursery
 - ↔ Diadromous Fish Migration Pathway



TRANSIT
The Way To Go.

Long Slip Canal Fill and Rail Enhancement Project - Compensatory Mitigation

USACE Public Notification Map

Project No.: TierIII-1043	Date: August 2017	Created By: AL
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BEM 100 Passaic Avenue
Chatham, NJ 07928
P. (908)598-2600

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